National Security Economic Theory (NASCENT)

David Dewhurst
DARPA/I2O

Proposers Day

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Program Vision

10-Year Vision: Theoretically rigorous and evidence-backed economic statecraft is the norm across the U.S. Government and the private sector.

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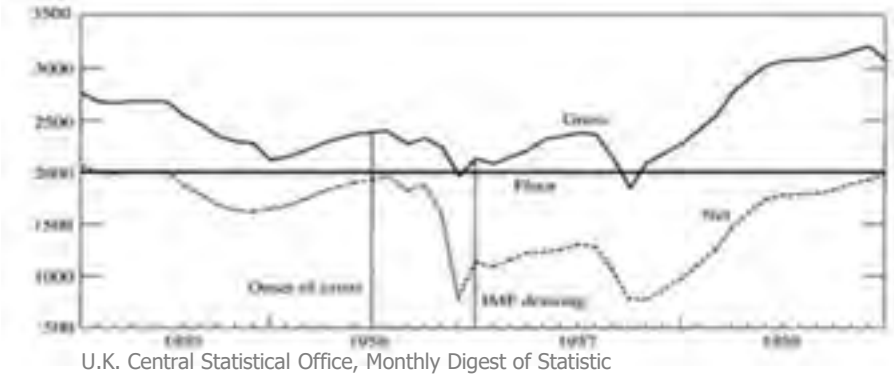
Is Economic Statecraft the "New" Normal?

***1956**: U.S. threat to devalue pound sterling **ends** the Suez Crisis.*

Imperial War Museum, Fleet Air Arm Official Photographer



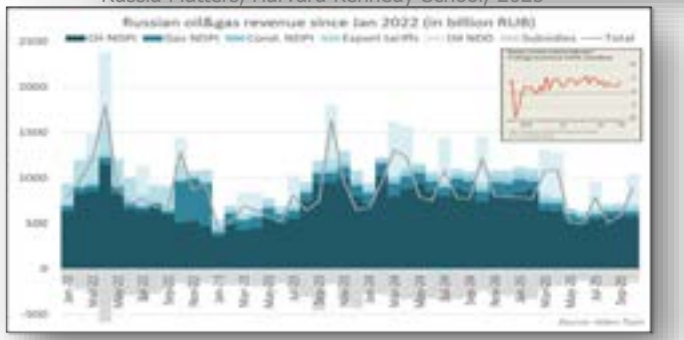
U.K. Central Statistical Office, Monthly Digest of Statistic

U.K. Gold and Dollar Reserves

70 Years

Reuters, 2022

Russia Matters, Harvard Kennedy School, 2025



Janis Kluge, X, 2025

***2026**: U.S. oil and financial sanctions **don't meaningfully affect** Russo-Ukrainian War.*

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What happened?

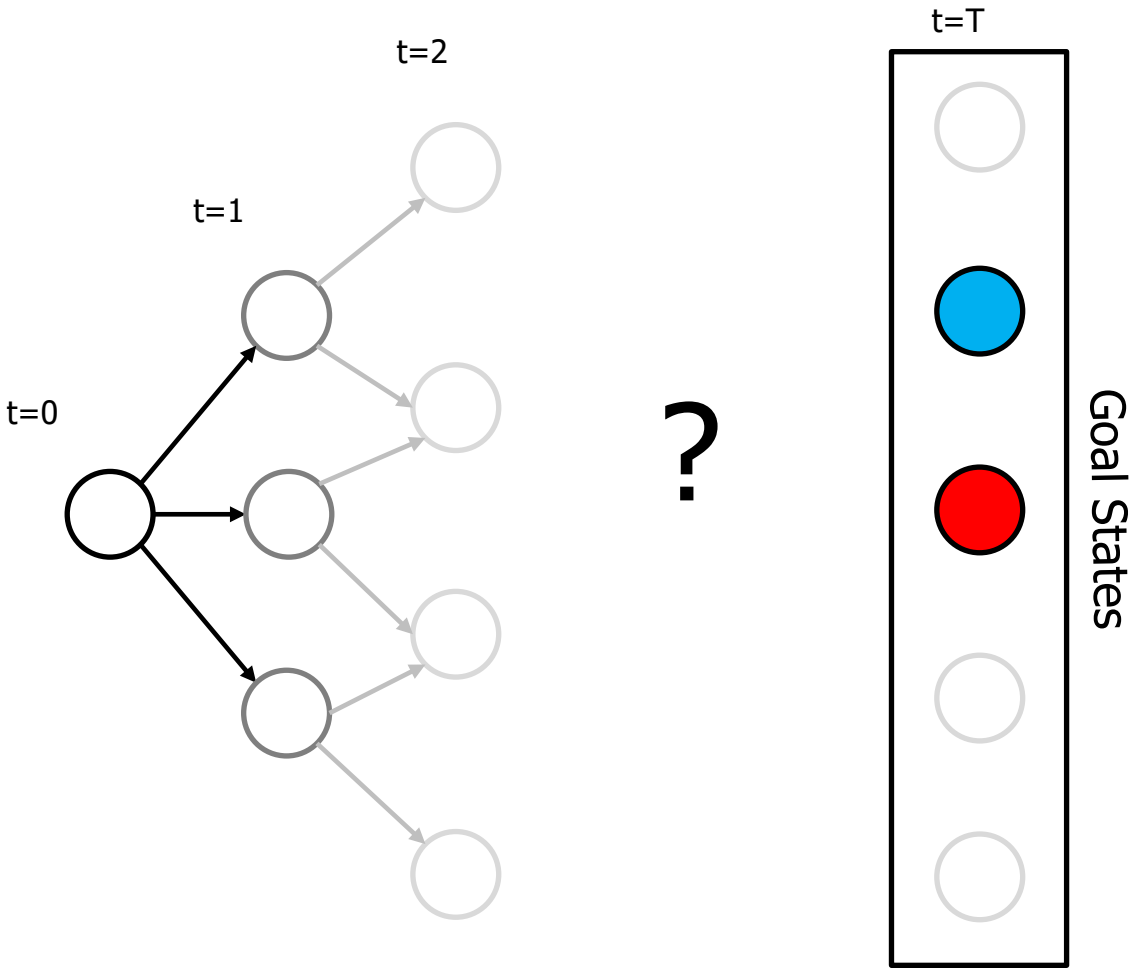
Maybe…

- Global economy is exceedingly complex at any level of analysis – far more so than in 1956 – and failure of "traditional" economic statecraft instruments was inevitable.

And maybe…

- We don't have accurate and precise tools of economic statecraft.
- We don't know when the tools will work and when they won't.
- We don't know what the (unintended?) consequences are.

Both possibilities can be true simultaneously.



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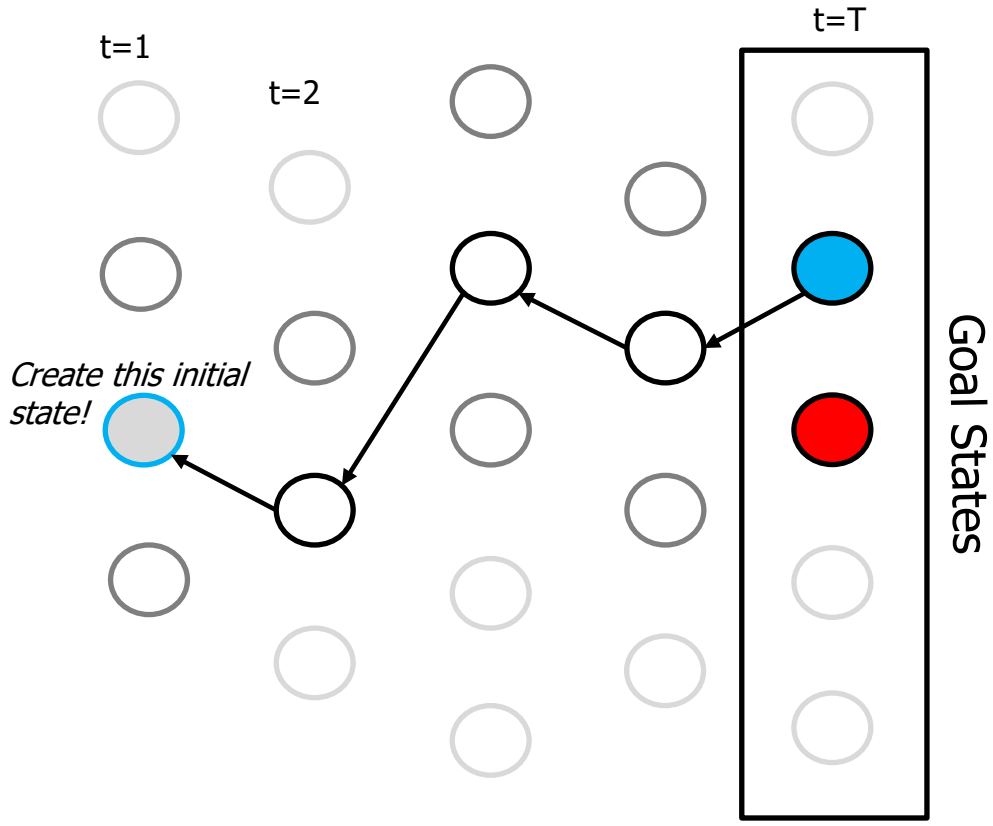
NASCENT will be the Foundation for Trusted Economic Statecraft

NASCENT aims to:

- Create rigorous and quantitative geoeconomic theory
- Test theory in experimental wargames, executive tabletop exercises, and operational applications
- Create robust transition pathways for the perpetuation of rigorous geoeconomic research

NASCENT **does not aim to:**

- Attempt to model the whole world
- Create policy (i.e., economic statecraft)



Theory enables trust in actions and outcomes by working backward from goal states.

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Geoeconomic Problem Decomposition: What?

The state and society

Agent goals	Economic growth	Social stability	Nat. Sec.	Political stability
Education	- R&D funding - Public-private partnerships - Subsidies	- Selective funding - Educational standards - Accreditation	- R&D funding - IR/poli-sci research	- Education policy - Accreditation - Industrial leadership
General public	- Taxation - Subsidies - Consumer protection	- Poverty assistance - Criminal justice - Public health	- Civil liberties - Conscription - Compensation	- Elections - Public accountability - Economic opportunity
Political orgs	- Budgetary prioritization - Employment policy - Fiscal policy	- Labor laws - Criminal justice - Educational investment - Healthcare investment	- Alliances - Foreign policy - Diplomatic presence - Crime legislation	- Party systems - Voter representation - National identity formation and management
Economic agents	- Monetary/fiscal policy - Subsidies - Property law - Infrastructure investment	- Welfare programs - Labor market - Housing policy - Financial services	- Sanctions/tariffs - Regulations - Pub/Private partnerships - Mil. Spending - Capital controls	- Electoral security - Accountable inst. - Regulatory transparency

State goals

NASCENT focus

Economic agent goals	Outward	Inward
Risk mitigation	- Security alliances - Trade agreements - Securing commercial hubs and routes	- Stockpiling - Public-private partnerships - Insurance
Market share	- Import/export restrictions - Strategic acquisitions - Quotas - Subsidies	- Foreign investment controls - R&D investment
Profit	- Trade agreements - Strategic acquisitions	- Procurement and sustainment - Operational testing - Subsidies

National security goals

Make a better decomposition!

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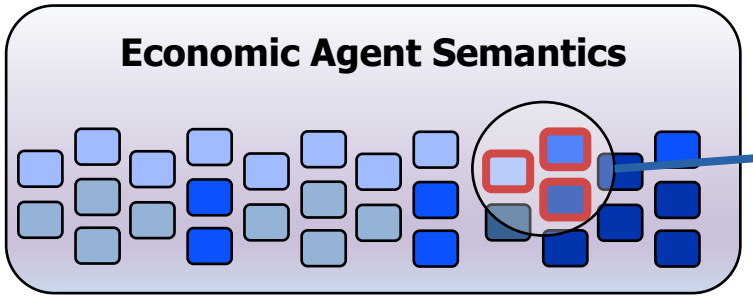
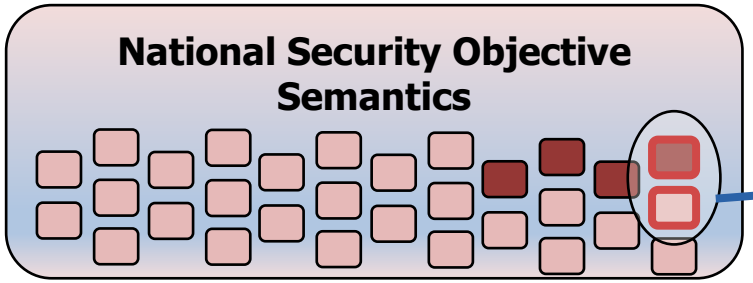
Geoeconomic Problem Decomposition: Why?

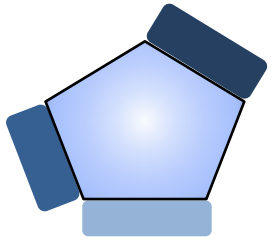
Semantics



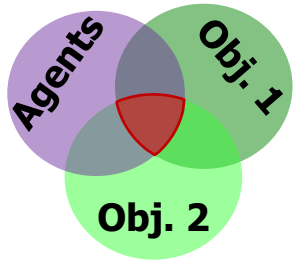


Semantics would help enable
- **Scalable modeling of emergence**
- **Interoperability / genericity**

Formal Specification



Verify agent type combinations



Feasibility region where objectives met and actions allowable

Verify if any action or set of actions can satisfy objectives
- **Boolean verifiability**
- **Stochastic Dominance**

Downstream processing

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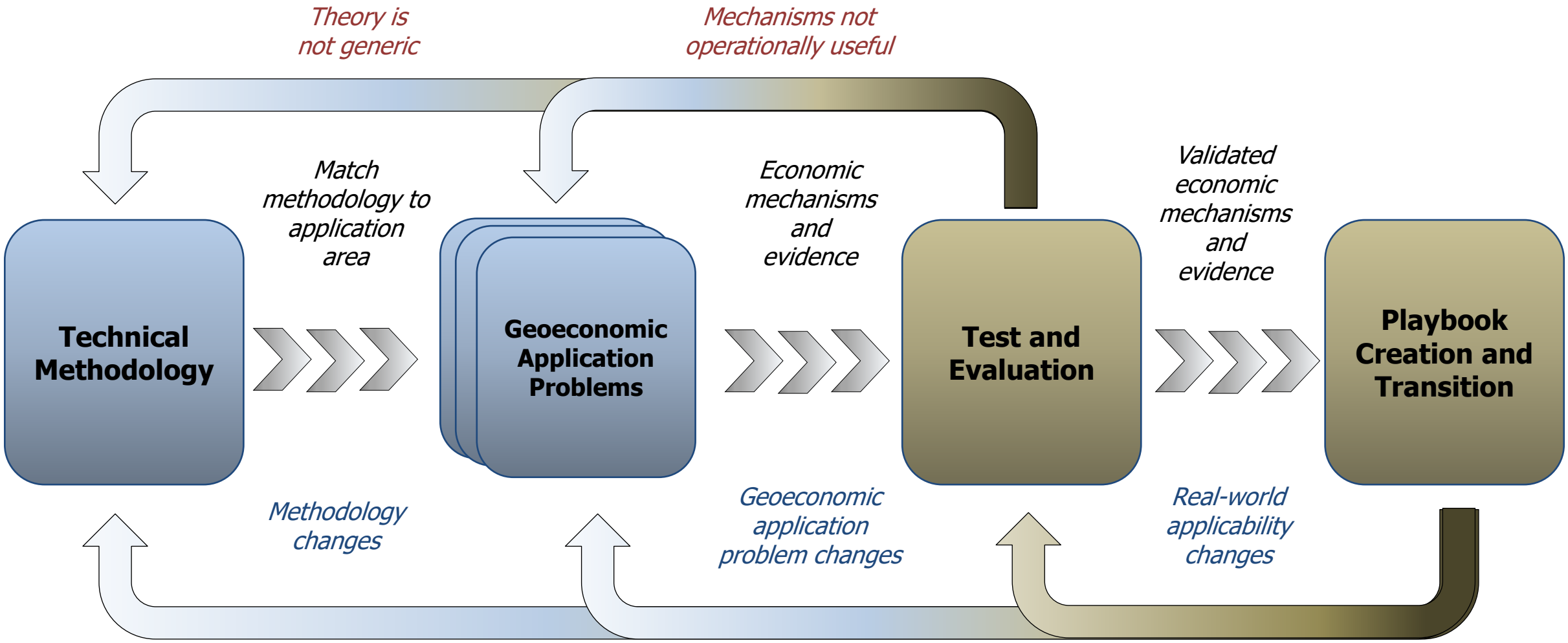
Geoeconomic Theory Development



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Research Methodology

- DARPA **strongly encourages** diversity in proposed research methodology
- "Pencil-and-paper"…
  - E.g., rapid advances in auction theory in the mid 2010s stemming from innovative application of tropical geometry / algebra (see, e.g., Crowell, R. A., & Tran, N. M. (2016). Tropical geometry and mechanism design. *arXiv preprint arXiv:1606.04880)*
- …to transformers + formal methods…
  - E.g., see expMath (expMath: Exponentiating Mathematics) and imagine the applications to economic theory
- ...and anything else you can think of – the above examples are *not* prescriptive.
- Proposed methodology **should** enable development of theory that
  - Is reducible to practice
  - Has assumptions that are precise, realistic, and minimal
  - Is done rapidly
- And **should not**
  - Rapidly generate "slop" work (or, for that matter, slowly generate "slop" either)

More information in the program solicitation.

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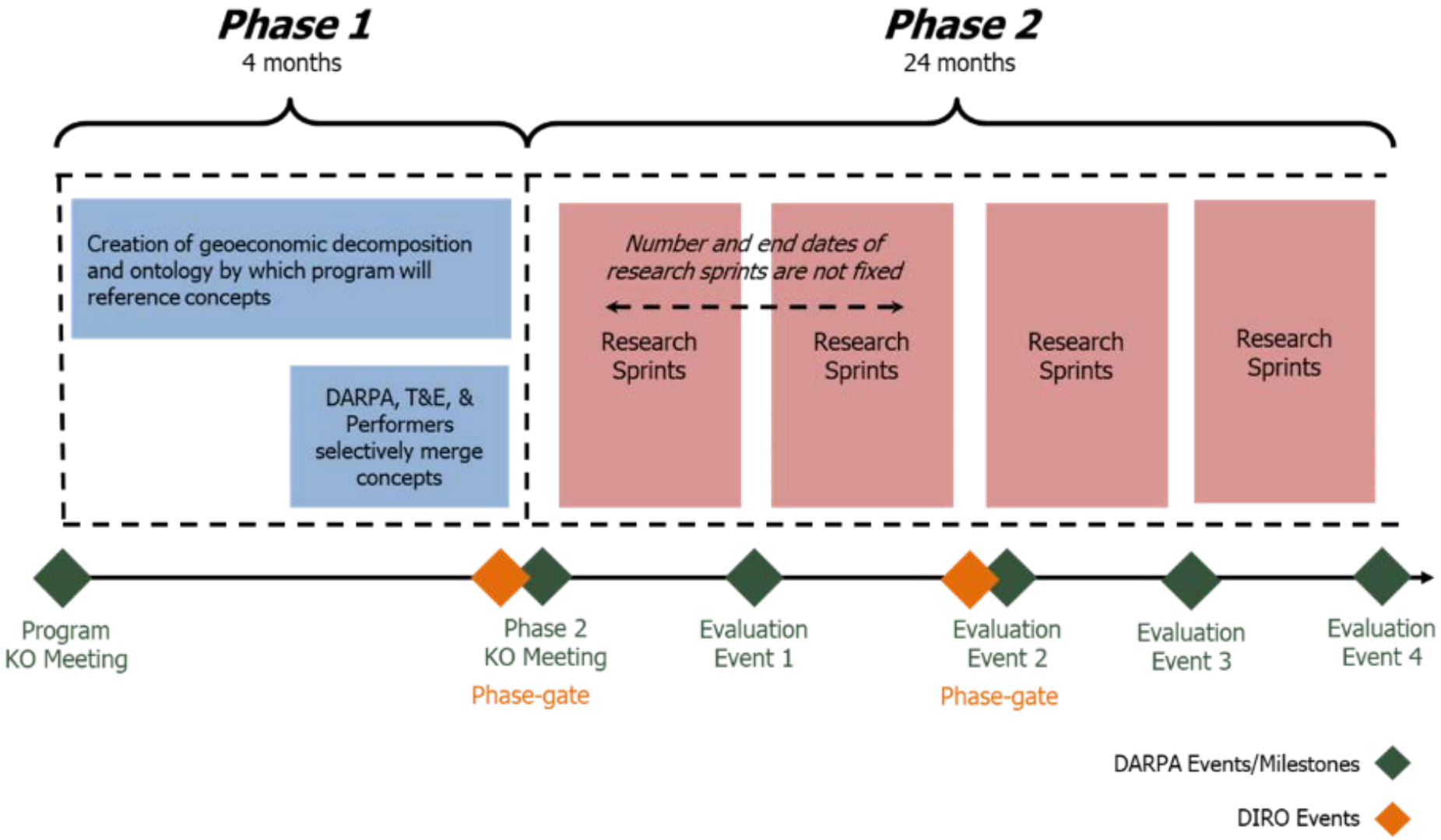
Schedule



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